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Knowledge and Adoption Status of Recommended Practices of Rice by Farmers in Mizoram, India

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ABSTRACT

A study was conducted to find out the knowledge and adoption level of rice growers in Mizoram, India on improved cultivation of rice. A structured interview schedule was developed for data collection. A total of 120 rice growers were taken as respondents from 12 villages of 3 selected blocks of the 3 districts, namely- Champhai District, Kolasib District and Serchhip. The overall mean for the knowledge index was 61.54, while the mean for the adoption index was 53.83. With respect to the overall knowledge level, 74.17 per cent of the respondents were in the medium category, whereas the overall adoption level, 71.67 per cent of the respondents, were in the medium category. The correlation values between sex, marital status, family size, training exposure, attitude versus knowledge index were established statistically significant relationship at 5 %. The correlation values between education, extension contact versus knowledge index were established statistically significant relationship at 1%. The correlations between income from paddy, experience versus adoption index were established statistically significant relationship at 5 %. The correlation between education versus adoption index was established significant relationship at 1%. It was found that the paddy growers of the study area were aware of certain improved practices of rice cultivation to some extent, but they were not making the best use of it. The government should focus on awareness and adoption of improved practices for better production of rice to achieve state-level food security.

Key words: *Rice; Adoption level; Knowledge level; Index; WRC; SRI; Mizoram.*

For ages, the significance of rice (*Oryza sativa* L.) has been accepted and recognised worldwide. It is among the leading food crops, having harvested area of about 158 million ha globally (*GRiSP, 2013*). It serves as a staple food to more than half of the total population providing up to 50.00 per cent of the dietary caloric supply and a substantial part of the protein intake for about 520 million people living in poverty in Asia. Around 21 per cent of human per capita energy is provided by this crop globally. Apart from providing 15.00 per cent of per capita protein, rice also provides minerals, vitamins and fibres, although except for carbohydrates, all of its constituents are reduced upon milling. It is closely associated with food security and political stability of developing countries and globally estimated 870 million chronic undernourished people depend on it. Rice, therefore, is of special importance for nutrition and for more than 200 million households across countries in the developing world, it is also a primary source of income and employment. It is the second most widely grown crop in the world. Asian countries have the highest rice production, and consumption in the world, about 90.00 per cent of the world's rice supply is contributed by Asian countries. India is also among the top rice producers globally, contributing around 20.00 per cent of the global rice production (*Bandumula, 2017*).

In India, the production increased by 39.00 per cent over the decade, i.e. from 53.6 million tons in 1980 to 74.6 million tonnes in the year 1990, which increased further to 93.30 million tons in the year 2000, 105.30 million tons in 2010 and 118.87 million tons in 2019-20 (*Govt. of India, 2021*). It is one of the chief grains and the country has the largest area under rice

cultivation. In north eastern region of India, it is the principal crop occupying 3.52 m ha (7.8 per cent) with a production of 6.57 mt and a productivity of 2.05 t ha^{-1}(*Govt. of India, 2015*). Mizoram is one of the states in North-East India, having an area of 21,081 km^2 with a population of 10,97,206 (*Govt. of India, 2011*). Mizoram literally means "the land of the hill people". Rice is the staple food of Mizoram and is consumed by all of the people of the state. Agriculture has been the major occupation of 70.00 per cent of the population for ages (*Patra and Babu, 2020*).

The shifting cultivation has been the predominant cropping system and around 70 per cent of the farmers are following this. The state has 36,858 ha of land under rice cultivation and has a production of 61,516 MT. Rice is the major crop cultivated in this state and is cultivated under *jhum* cultivation and Wet Rice Cultivation (WRC). It is cultivated by 26.69 per cent of the farmers and among them, 5.85 per cent practised WRC. The average requirement of rice of the state per year is 20,55,924 qtls whereas the total production of rice by farmers of Mizoram (during 2016-17) was 6,15,160 qtls. The total production of the state provides 29.92 per cent of the requirement leaving a deficiency of 70.08 per cent of the requirement. Even though rice is cultivated majorly by the farmers of the state, the productivity is low and only 35.00 per cent (13,400 ha) is under High Yielding Variety and 2.29 per cent under Hybrid Rice cultivation. There are not enough surpluses to feed the non-farming community.

The WRC area has to meet the demands for higher production of this food grain whereas the present scenario shows that much of this demand is still not met from existing wet rice cultivation areas, and a larger percentage of the demand is filled up by importing from other states of the country. The areas of WRC were increased by 28.40 per cent during 2011, while the food grain production increased by 10.00 per cent (*Lallianthanga et al. 2013*). However, the state's rice production was hardly 30.00 per cent of its consumption, which indicates that in order to meet the consumption demands of the state, there is still more to be achieved. To increase the production, the department of agriculture, the government of Mizoram, has introduced improved cultivation practices in rice cultivation.

Therefore, it is important to study the extent of the adoption of improved cultivation practices by rice growers in the state.

METHODOLOGY

The present study was conducted in the state of Mizoram, which is constituted of eight districts, namely, Aizawl District, Kolasib District, Lunglei District, Saiha District, Champhai district, Lawngtlai District, Mamit district and Serchhip district. Out of these districts, three districts, namely Champhai district, Kolasib district and Serchhip district, have been purposively selected for the study based on the highest production, acreage and productivity of rice among the districts (*Govt. of Mizoram, 2018*). Further, Bilkhawthlir RD block, Champhai RD block and Serchhip RD Block were purposively selected from Kolasib district, Champhai district and Serchhip district, respectively, based on the intensive cultivation of rice and availability of rice growers as respondents. A total of 12 villages (i.e., 4 villages from each of the selected districts) were purposively selected and included in the study.

A total of 120 experienced rice growers were selected, with 10 growers from each of the selected villages. The descriptive research design was used for this study. Data were collected by interviewing the respondents using a structured interview schedule which was developed for this study. The collected data were classified, tabulated and analysed using frequency, percentage, mean, standard deviation and correlation. Further, the knowledge adoption index was calculated by adopting the formula of achieved score against knowledge and adoption of each respondent, divided by maximum achievable score and multiplied by 100. Subsequently, a relationship study between socio-economic variable versus knowledge index and adoption index was conducted to test the following 2 hypotheses, viz., H_o1: There was no association between various socio-economic variables and level of knowledge. And H_o2: There was no association between various socio-economic variables and status of adoption.

RESULTS AND DISCUSSION

The results of the investigation are discussed with the help of statistical analysis. In the study area, farmers are practicing Wet Rice Cultivation (WRC) and System of Rice Intensification (SRI). About 78.33 per cent of respondents were practising WRC and the remaining 21.67 per cent farmers were practising SRI. The knowledge and adoption level of the respondents on the recommended practices in rice cultivation are discussed as follows.

Knowledge and adoption level of farmers practicing WRC : Recently, India has been pursuing consistent economic growth with significant poverty (Ao and Patra, 2018). To maintain consistent growth and reduce poverty, proper adoption of improved technologies in each sector is unavoidable. Further, farming is the main occupation in the region (*Benjongtoshi and Patra, 2021*). So, the agriculture sector is not an exception. The study has found that all of the WRC farmers had full knowledge on the recommended practices regarding land preparation. It was found that the majority of the respondents (92.55%) had full knowledge of recommended seed selection method of WRC with regard to the seed rate recommended for WRC, 43.62 per cent had partial knowledge, and 11.70 per cent had full knowledge.

It is also found that 58.51 per cent of the respondents had partial knowledge and 9.58 per cent with full knowledge of the recommended nursery area in WRC. Regarding seed treatment, 93.62 per cent had partial knowledge and 1.06 per cent of the respondents with full knowledge. Table 1 also shows that 14.89 per cent had partial knowledge regarding the recommended dose of fertilizer for nurseries under WRC. It is also found that 78.73 per cent had full knowledge and 20.21 per cent of the respondents with partial knowledge regarding the recommended time of sowing for WRC.

The study reveals that among the respondents practicing WRC, 80.85 per cent had full knowledge, remaining 19.15 per cent of the respondents with partial knowledge regarding the recommended time of transplanting for WRC. It was also found that 89.36 per cent had full knowledge and 9.58 per cent of the respondents with partial knowledge. On the other hand, 77.66 per cent had partial knowledge, while 7.45 per cent with full knowledge regarding recommended spacing for transplanting under WRC. It was also found that 97.87 per cent had full knowledge, and 2.13 per cent of the respondents had partial knowledge regarding the number of seedlings per hill as recommended for WRC.

For fertilizer management, only 5.32 per cent had full knowledge, while 41.49 percent of the respondents had partial knowledge regarding fertilizer application as recommended for WRC. *Patra and Kense (2020)* also reported about inadequate knowledge on fertilizer application of mandarin growers in Nagaland, India. It was found that 41.49 per cent of the respondents had partial knowledge in respect of recommended insect pest management for WRC. The table also reveals that 69.15 per cent had partial knowledge regarding recommended disease management for WRC. It is also found that 52.13 per cent had full knowledge and 47.87 per cent of the respondents had partial knowledge regarding recommended weed management practices under WRC.

Table 1. Distribution of respondents practicing WRC based on their knowledge and adoption of recommended practices (N=94)

Recommended practice	Knowledge						Adoption					
	Full		Partial		No		Full		Partial		No	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Land preparation	94	100	0	0	0	0	94	100	0	0.00	0	0.00
Seed selection	87	92.55	5	5.32	2	2.13	86	91.49	6	6.38	2	2.13
Seed rate	11	11.70	41	43.62	42	44.68	5	5.32	43	45.74	46	48.94
Nursery area	9	9.58	55	58.51	30	31.91	0	0.00	36	38.30	58	61.70
Seed treatment	1	1.06	88	93.62	5	5.32	0	0.00	46	48.94	48	51.06
Fertilizer application in nursery	0	0.00	14	14.89	80	85.11	0	0.00	0	0.00	94	100
Sowing time	74	78.73	19	20.21	1	1.06	57	60.64	34	36.17	3	3.19
Transplanting time	76	80.85	18	19.15	0	0.00	60	63.83	33	35.11	1	1.06
Seedling age	84	89.36	9	9.58	1	1.06	82	87.24	11	11.70	1	1.06
Spacing	7	7.45	73	77.66	14	14.89	1	1.06	69	73.41	24	25.53
Seedling per hill	92	97.87	2	2.13	0	0.00	90	95.75	3	3.19	1	1.06
Fertilizer application	5	5.32	39	41.49	50	53.19	0	0.00	29	30.85	65	69.15
Insect pest management	0	0.00	39	41.49	55	58.51	0	0.00	11	11.70	83	88.30
Disease management	0	0.00	65	69.15	29	30.85	0	0.00	33	35.11	61	64.89
Weed management	49	52.13	45	47.87	0	0.00	0	0.00	80	85.11	14	14.89
Water management	40	42.55	54	57.45	0	0.00	29	30.85	52	55.32	13	13.83
Harvesting time	92	97.87	2	2.13	0	0.00	91	96.81	3	3.19	0	0.00

Further, Table 1 indicates that among the respondents practicing WRC, 57.45 per cent had partial knowledge and 42.55 per cent of the respondents had full knowledge regarding recommended water management for WRC. In regard to harvesting time, 97.87 per cent had full knowledge and 2.13 per cent of the respondents had partial knowledge regarding harvesting time as recommended for WR.

Adequate technical knowledge directly influences the proper implementation of scheme (*Ao et al. 2019*) and it is also apparent in the adoption of technologies in the farming sector. Table 1 shows that all of the WRC farmers had full adoption of the recommended practice regarding land preparation. It is found that the majority (91.49 per cent) of the respondents had full adoption, followed by 6.38 per cent with partial adoption. It is also found that 5.32 per cent had fully adopted, and 45.74 per cent had partially adopted the recommended seed rate for WRC. Table 1 also indicates that 38.30 per cent had partially adopted the recommended nursery area for WRC. It is also found that 48.94 per cent partially adopted the seed treatment recommended for WRC. It also reveals that all of the respondents did not adopt the application of fertilizer recommended for nurseries under WRC. The table further reveals that, 60.64 per cent of the respondents fully adopted and 36.17 per cent partially adopted the sowing time recommended for WRC. It is also found that 63.83 per cent of the respondents had fully adopted, followed by 35.11 per cent of the respondents who had partially adopted the recommended transplanting time for WRC. Among the respondents practicing WRC, 87.24 per cent had fully adopted and 11.70 per cent of the respondents had partially adopted the recommended seedling age in WRC.

Further, Table 1 reveals that 73.41 per cent of the respondents had partially adopted and 1.06 per cent fully adopted the spacing recommended for WRC. The table also reveals that 95.75 per cent of the respondents had fully adopted, followed by 3.19 per cent who partially adopted the recommended seedling per hill in WRC. It was also found that only 30.85 per cent of the respondents had partially adopted the recommended fertilizer application for WRC and 11.70 per cent of the respondents had partially adopted the recommended insect pest management under WRC. Regarding disease management, 35.11 per cent of the respondents had partially adopted the disease management recommended for WRC.

Weed infestation in crops is also a reason for colossal production loss. It emerged as the 5th important problem in king chilli cultivation in Nagaland, India (*Patra et al. 2019*) and the 2nd most important problem in chow-chow cultivation in Mizoram, India (*Patra and Lianzami, 2021*). In the study area, around 85.11 per cent of the respondents had partially adopted the recommended weed management for WRC. It was also found that 55.32 per cent had partially adopted, followed by 30.85 per cent of the respondents who fully adopted the water management recommended for WRC. The table also shows that 96.81 per cent of the respondents had fully adopted and 3.19 per cent of the respondents had partially adopted the recommended harvesting time for WRC.

Table 2 reveals the distribution of respondents practicing WRC based on their knowledge and adoption level. It was found that 76.60 per cent of the respondents had a medium level of knowledge, followed by 11.70 per cent each with low level and high level respectively. It can be concluded that majority of the respondents had a medium level of knowledge. These findings are in accordance with the findings of *Meena et al. (2012). The* table also contains the information on the distribution of the respondents practicing WRC based on their adoption level. It is found that 63.83 per cent of the respondents had a medium level of adoption, followed by 19.15 per cent with a low level and 17.02 per cent with a high level. It can be concluded that the majority of the respondents are in a medium level in regard to adoption. These findings have in agreement with the results of the finding of *Singh and Varshney (2010).*

Knowledge and adoption of farmers practicing SRI : According to Table 3, all SRI farmers had full knowledge of the recommended land preparation practices for SRI. It is found that about 34.62 per cent had partial knowledge, and the remaining 7.69 per cent had full command on recommended practices related to seed selection for SRI. Table 3 further reveals that

Table 2. Distribution of respondents practicing WRC based on the knowledge and adoption level (N=94)

Categories	Knowledge		Adoption	
	No.	%	No.	%
Low level	11	11.70	18	19.15
Medium level	72	76.60	60	63.83
High level	11	11.70	16	17.02
	Mean = 61.20; SD = 3.49		Mean = 54.67; SD = 2.63	

34.62 per cent of the respondents had partial knowledge and only 19.23 per cent with full knowledge of the seed rate recommended for SRI. It was also found that 73.08 per cent of the respondents had partial knowledge of the seed treatment recommended for SRI. The table also reveals that 23.08 per cent had full knowledge and 11.54 per cent had partial knowledge regarding recommended water management in the nursery under SRI.

Table 3 also reveals that 76.42 per cent of the respondents had full knowledge and 23.08 per cent had partial knowledge on the method of transplanting recommended for SRI. In regard to sowing time, 80.77 per cent had full knowledge, and 11.54 percent of the respondents had partial knowledge on the sowing time recommended for SRI. The table also reveals that 80.77 per cent had full knowledge and 11.54 per cent of the respondents with partial knowledge of the transplanting time recommended for SRI. In regard to spacing for transplanting, 50 per cent had partial knowledge and 38.46 per cent of the respondents had full knowledge of the recommended spacing for transplanting in SRI. It is also found that all the respondents practicing SRI had full knowledge of seedling per hill recommended for SRI.

The table also reveals that 38.46 per cent of the respondents had partial knowledge about the recommended nutrient management for SRI. It was also found that only 19.23 per cent of the respondents had partial knowledge of recommended insect pest management for SRI. The table further reveals that 26.92 per cent of the respondents had partial knowledge of the recommended disease management for SRI. It is also found that 57.69 per cent of the respondents had full knowledge, and 26.92 per cent of the respondents had partial knowledge regarding weed management recommended for SRI. It was also found that 46.15 per cent had partial knowledge, and 30.77 per cent had full knowledge of the recommended water management for SRI. Regarding harvesting time, 57.69 per cent of the respondents had full knowledge and 42.31 per cent of the respondents had partial knowledge on the recommended harvesting time in SRI.

Table 3 also contains the information on the adoption of recommended practices by respondents practicing SRI. It was found that 92.31 per cent of the respondents practicing SRI had fully adopted and 7.69 per cent had partially adopted the land preparation as recommended for SRI. It was also found that 23.08 per cent had partially adopted, and the remaining 7.69 per cent had fully adopted the recommended seed selection for SRI. Regarding seed rate, 46.15 per cent had partially adopted, and the remaining 3.85 per cent had fully adopted the recommended seed rate for SRI. The table also reveals that 61.54 per cent of the respondents had partially adopted the recommended seed treatment for SRI. It is also found that only 3.85 per cent had

Table 3. Distribution of farmers practicing SRI based on their knowledge and adoption of recommended practices (N=26)

Recommended practices	Knowledge						Adoption					
	Full		Partial		No		Full		Partial		No	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Land preparation	26	100	0	0.00	0	0.00	24	92.31	2	7.69	0	0.00
Nursery preparation	2	7.69	9	34.62	15	57.69	2	7.69	6	23.08	19	69.23
Seed rate	5	19.23	9	34.62	12	46.15	1	3.85	12	46.15	13	50.00
Seed treatment	0	0.00	19	73.08	7	26.92	0	0.00	16	61.54	10	38.46
Nursery water management	6	23.08	3	11.54	17	65.38	0	0.00	1	3.85	25	96.15
Method of transplanting	20	76.42	6	23.08	0	0.00	11	42.31	11	42.31	4	15.38
Sowing time	21	80.77	3	11.54	2	7.69	13	50.00	11	42.31	2	7.69
Transplanting time	21	80.77	3	11.54	2	7.69	13	50.00	11	42.31	2	7.69
Spacing	10	38.46	13	50.00	3	11.54	3	11.54	10	38.46	13	50.00
Seedling per hill	26	100	0	0	0	0.00	24	92.31	2	7.69	0	0.00
Fertilizer application	0	0.00	10	38.46	16	61.54	0	0.00	8	30.77	18	69.23
Insect pest management	0	0.00	5	19.23	21	80.77	0	0.00	2	7.69	24	92.31
Disease management	0	0.00	7	26.92	19	73.08	0	0.00	3	11.54	23	88.46
Weed management	15	57.69	7	26.92	4	15.38	1	3.85	17	65.38	8	30.77
Water management	8	30.77	12	46.15	6	23.08	8	30.77	8	30.77	10	38.46
Harvesting time	15	57.69	11	42.31	0	0.00	13	50.00	6	23.08	7	26.92

partially adopted the recommended water management in the nursery under SRI. Regarding the adoption of recommended method of transplanting, 42.31 per cent each of the respondents had fully and partially adopted the recommendation, respectively.

Table 3 also reveals that among the respondents practicing SRI, 50.00 per cent had fully adopted and 42.31 per cent of the respondents had partially adopted the sowing time recommended for SRI. The table further reveals that among the respondents practicing SRI, 50.00 per cent had fully adopted and 42.31 per cent of the respondents had partially adopted the recommended time of transplanting for SRI. With regard to spacing, 38.46 per cent of the respondents had partially adopted and the remaining 11.54 per cent had fully adopted the spacing recommended for SRI. The table also reveals that 92.31 per cent of the respondents had fully adopted and the remaining 7.69 per cent had partially adopted the recommended seedling per hill in SRI. Among the respondents, 30.77 per cent had partially adopted the recommended fertilizer application in SRI. In regard to insect pest management, only 7.69 per cent of the respondents had partially adopted the recommended insect pest management for SRI. It is also found that 11.54 per cent of the respondents had partially adopted the recommended disease management for SRI. The table also shows that 65.38 per cent had partially adopted while only 3.85 per cent of the respondents had fully adopted the recommended weed management for SRI. The table also reveals that 30.77 per cent of the respondents had fully adopted, while another 30.77 per cent had partially adopted the recommended water management for SRI. Regarding harvesting time, 50.00 per cent had fully adopted, while 23.08 per cent had partially adopted the recommended harvesting time in SRI.

The study also reveals that among the respondents implementing SRI, 73.08 per cent had a medium level of knowledge, followed by 19.23 per cent with a low level and 7.69 per cent with the high level of knowledge. Therefore, it can be inferred that the majority of the respondents had a medium level of knowledge. It was also found that based on their adoption level, the majority of the respondents (80.77 per cent) had a medium level of adoption, followed by 11.54 per cent with a low level and 7.69 per cent with a high level of adoption. Therefore, it can be inferred that the majority of the respondents were in a medium level in regard to the adoption of different components of SRI (Table 4).

Table 4 Distribution of respondents practicing SRI based on the level of knowledge and adoption (N=26)

Categories	Knowledge		Adoption	
	No.	%	No.	%
Low level	5	19.23	3	11.54
Medium level	19	73.08	21	80.77
High level	2	7.69	2	7.69
	Mean= 62.76; SD = 4.91		Mean=50.91; SD=5.54	

Table 5. Distribution of respondents according to their overall knowledge and adoption (N=120)

Category	Overall Knowledge		Overall Adoption	
	No.	%	No.	%
Low	14	11.67	16	13.33
Medium	89	74.17	86	71.67
High	17	14.17	18	15.00
Total	120	100	120	100

Table 5 shows the distribution of respondents according to their knowledge level measured in terms of index score. The overall knowledge level of 74.17 per cent of the respondents was in the medium category, 14.17 per cent of the respondents were in the high category and 11.67 per cent of the respondents were in low category. The knowledge index was ranged from 55.28-74.80. The mean and standard deviation values were 61.54 and 3.87, respectively. The findings are in accordance with the findings of *Garai et al. (2020).*

It was also found that 71.67 per cent of the respondents were in the medium adoption category, 15.00 per cent of the respondents were in the high category and 13.33 per cent of the respondents were in the low adoption category. The mean and standard deviation values were 53.86 and 3.78, respectively. The findings are in alignment with the findings of *Sharma et al. (2016)* and *Patra et al. (2018).* Further, *Patra, Moasunep and Sailo (2020)* adopted the concept of modernization index using the knowledge and adoption index of farmers and reported that around 89.52 per cent of the rubber grower in Nagaland had a medium modernization index.

Here an attempt had also been made to test the relationship between “knowledge index” (dependent variable) and other socio-economic characteristics of the respondents (Table 6). The correlation values between knowledge index and following socio-economic variables- age, area under paddy, annual income, income from paddy, experience, mass media

Table 6. Relationship between socio-economic factors and knowledge index of paddy growers (N=120)

Variables	Value of 'r'
Age	-0.011^{NS}
Sex	-0.220*
Marital status	-0.204*
Family size	-0.185*
Education	0.369**
Area under paddy	-0.029^{NS}
Annual income	0.027^{NS}
Income from paddy	-0.094^{NS}
Extension contact	0.284**
Training exposure	0.186*
Experience	-0.117^{NS}
Mass media contact	0.149^{NS}
Attitude	-0.188*

* Significant at 5 per cent;
** Significant at 1 per cent; NS- Not significant

Table 7. Relationship between various socio-economic factors and adoption index of paddy grower (N=120)

Variables	Value of 'r'
Age	-0.065^{NS}
Sex	-0.128^{NS}
Marital status	-0.086^{NS}
Family size	-0.081^{NS}
Education	0.308**
Area under paddy	0.051^{NS}
Annual income	0.016^{NS}
Income from paddy	-0.183*
Extension contacts	0.150^{NS}
Training exposure	-0.070^{NS}
Experience	-0.212*
Mass media contact	0.105^{NS}
Attitude	-0.031^{NS}

* Significant at 5 per cent;
** Significant at 1 per cent; NS- Not significant

contact were -0.011, -0.029, 0.027, -0.094, -0.117 and 0.149, respectively. The results were not statistically significant. The correlation values between sex, marital status, family size, training exposure, attitude and knowledge index were -0.220, -0.204, -0.185, 0.186 and -0.188 respectively. The results were statistically significant at 5 %. The correlation values between education, extension contact and knowledge index were 0.369 and 0.284, respectively. The results were statistically significant at 1% (Table 6).

Further, relationship between "adoption index" (dependent variable) versus other socio-economic characteristics of the respondents had analyzed (Table 7). The correlation values between socio-economic variables- age, sex, marital status, family size, area under paddy, annual income, extension contact, training exposure, mass media contact, attitude and adoption index were -0.065, -0.128, -0.086, -0.081, 0.051, 0.016, -0.150, -0.070, 0.105 and -0.031, respectively and the results were statistically non- significant. The correlation values between income from paddy, experience and adoption index were -0.183 and -0.212 were statistically significant at 5%. The correlation value between education and adoption index was 0.308 and the result was significant at 1% (Table 7).

CONCLUSION

The present study was conducted to know more about the knowledge level and status of adoption of the recommended cultivation practices by the rice growers in the state of Mizoram, India. It was found that the overall knowledge and adoption level of the respondents were at a medium level. Hence, the government should focus on awareness and adoption of improved practices for better production. Among the study community, it was found that the use of nutrients and fertilizer was highly neglected and the knowledge regarding this matter was also inadequate. Therefore, the government should arrange training to upscale their knowledge.

It was also observed that the farmers in the study area lacked proper knowledge on seed treatment, insect-pest management and disease management. The correlation values between sex, marital status, family size, training exposure, attitude and knowledge index were established statistically significant relationship at 5 %. The correlation values between education, extension contact and knowledge index were established statistically significant relationship at 1%. The correlations between income from paddy, experience versus adoption index were -0.183 and -0.212 and established statistically significant relationship at 5%. The correlation between education versus adoption index was 0.308 and established a significant relationship at 1%. Relevant and need-based training should be given to the farmers to upgrade their knowledge in these matters. The government should also take steps to motivate the farmers and improve their knowledge and adopt of the recommended practices in order to improve their production in order to meet the need of the state.

CONFLICTS OF INTEREST

The authors have no conflicts of interest.

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